

## Claims

1. An antibody or antigen-binding fragment thereof that binds to CD40, comprising:
  - (a) 3 complementarity determining regions of a heavy chain variable region (HCDR1, HCDR2 and HCDR3), wherein HCDR1, HCDR2 and HCDR3 comprise or consist of the sequences set forth in SEQ ID NOs:1, 3, and 55 respectively; and
  - (b) 3 CDRs of a light chain variable region (LCDR1, LCDR2 and LCDR3), wherein LCDR1, LCDR2 and LCDR3 comprise or consist of the sequences as set forth in SEQ ID NO:7, 9 and 56 respectively.
2. The antibody or antigen-binding fragment of claim 1, wherein:
  - (a) HCDR1, HCDR2 and HCDR3 comprise or consist of the sequences set forth in SEQ ID NOs: 1, 3 and 5 respectively, and LCDR1, LCDR2 and LCDR3 comprise or consist of the sequences set forth in SEQ ID NOs: 7, 9 and 11 respectively;
  - (b) HCDR1, HCDR2 and HCDR3 comprise or consist of the sequences set forth in SEQ ID NOs: 1, 3 and 51 respectively, and LCDR1, LCDR2 and LCDR3 comprise or consist of the sequences set forth in SEQ ID NOs: 7, 9 and 53 respectively; or
  - (c) HCDR1, HCDR2 and HCDR3 comprise or consist of the sequences set forth in SEQ ID NOs: 1, 3 and 52 respectively, and LCDR1, LCDR2 and LCDR3 comprise or consist of the sequences set forth in SEQ ID NOs: 7, 9 and 54 respectively.
3. The antibody or antigen-binding fragment of claim 1 or claim 2, comprising a heavy chain variable region (VH) and/or a light chain variable region (VL), wherein:
  - (a) the VH comprises or consists of:
    - (i) an amino acid sequence having at least 90%, 91%, 92%, 93%, 94%, 95%, 96%, 97%, 98% or 99% identity with an amino acid sequence selected from SEQ ID NO: 13, 58, 60, 62 or 14;
    - (ii) an amino acid sequence selected from SEQ ID NO: 13, 58, 60, 62 or 14; or
    - (iii) an amino acid sequence having 1 or more amino acid alternations as compared to an amino acid sequence selected from SEQ ID NOs:13, 58, 60, 62 or 14; and/or
  - (b) the VL comprises or consists of:
    - (i) an amino acid sequence having at least 90%, 91%, 92%, 93%, 94%, 95%, 96%, 97%, 98% or 99% identity with an amino acid sequence selected from the group consisting of SEQ ID NO: 15, 64, 66 or 16;

- (ii) an amino acid sequence selected from SEQ ID NO: 15, 64, 66 or 16; or
  - (iii) an amino acid sequence having 1 or more amino acid alternations as compared to an amino acid sequence selected from SEQ ID NO:15, 64, 66 or 16.
- 4. The antibody or antigen-binding fragment of claim 3, wherein:
  - (a) the VH comprises or consists of an amino acid sequences having no more than 10 amino acid alteration, and preferably no more than 5, 4, 3, 2, or 1 amino acid alternations, as compared to an amino acid sequence selected from SEQ ID NO:13, 58, 60, 62 or 14;
  - (b) the VL comprises or consists of an amino acid sequences having no more than 10 amino acid alteration, and preferably no more than 5, 4, 3, 2, or 1 amino acid alternations, as compared to an amino acid sequence selected from SEQ ID NO:15, 64, 66 or 16;
  - (c) the one or more amino acid alternations are substitutions;
  - (d) the one or more alternations are conservative substitutions;
  - (e) amino acid alternations do not occur in CDR regions; and/or
  - (f) amino acid alterations occur in framework regions.
- 5. The antibody or antigen-binding fragment of any one of claims 1 to 4, wherein the antibody is a monoclonal antibody, a humanized antibody, a human antibody or a chimeric antibody.
- 6. An isolated nucleic acid molecule encoding any one or more chains of the antibody or antigen-binding fragment of any one of claims 1 to 5.
- 7. A vector comprising the nucleic acid molecule of claim 6, preferably wherein said vector is an expression vector.
- 8. A host cell comprising the nucleic acid molecule of claim 6 or the vector of claim 7, wherein the host cell is suitable for production of an antibody or antigen binding fragment thereof.
- 9. The host cell of claim 8, wherein the host cell is a yeast cell or a mammalian cell.

10. A method of preparing an antibody or antigen-binding fragment thereof of any one of claim 1 to 5, the method comprising culturing the host cell of claim 8 in culture medium under conditions suitable for expression of the antibody or binding fragment thereof, optionally further comprising recovering the antibody or antigen-binding fragment from the culture medium.
11. An immunoconjugate comprising the antibody or antigen-binding fragment thereof of any one of claims 1 to 5 and one or more additional agents.
12. A pharmaceutical composition comprising the antibody or antigen-binding fragment thereof of any one of claims 1 to 5 or the immunoconjugate of claim 11, and optionally a pharmaceutical excipient.
13. The immunoconjugate of claim 11 or the pharmaceutical composition of claim 12, comprising one or more additional agents selected from a therapeutic agent or a label.
14. The immunoconjugate or the pharmaceutical composition of claim 13, wherein the therapeutic agent is selected from the group consisting of a chemotherapeutic agent, another antibody, a cytotoxic agent, a vaccine, an anti-infective active agent, a small molecule drug, and an immunomodulatory agent.
15. An effective amount of the antibody or antigen-binding fragment thereof of any one of claims 1-5, the immunoconjugate of any one of claims 11, 13 or 14, or the pharmaceutical composition of any one of claims 12-14 for use in a method of enhancing an immune response in a subject.
16. An effective amount of the antibody or antigen-binding fragment thereof of any one of claims 1-5, the immunoconjugate of any one of claims 11, 13 or 14, or the pharmaceutical composition of any one of claims 12-14 for use in a method of preventing or treating a CD40-associated disease.
17. Use of an effective amount of the antibody or antigen-binding fragment thereof of any one of claims 1-5, the immunoconjugate of any one of claims 11, 13 or 14, or the pharmaceutical composition of any one of claims 12-14 in the manufacture of a

medicament for the treatment or prevention of a CD40-associated disease.

18. The effective amount of the antibody or antigen-binding fragment, immunoconjugate or pharmaceutical composition for use of claim 16 or the use of claim 17, wherein the CD40-associated disease is a cancer selected from the group consisting of lymphoma, colon cancer, colorectal cancer, rectal cancer, lung cancer, liver cancer, gastric cancer, and metastatic cancers thereof or an infection such as a chronic infection or a viral infection.
19. The effective amount of the antibody or antigen-binding fragment, immunoconjugate or pharmaceutical composition for use of claim 16 or 18 or the use of claim 17 or 18, wherein treating or preventing the CD40-associated disease further comprises surgical treatment and/or radiotherapy, and/or treatment with another therapeutic agent selected from a chemotherapeutic agent, another antibody, a cytotoxic agent, a vaccine, an anti-infective active agent, a small molecule drug, an immunomodulatory agent or combinations thereof.
20. A kit comprising the antibody or antigen-binding fragment thereof of any one of claims 1-5 or the immunoconjugate of any one of claims 11, 13 or 14.